

ROSSLARE SECURITY PRODUCTS

Installation Instructions

PYR-2011A

Advanced Wireless PIR

1. Introduction

The PYR-2011A Digital Wireless Passive Infrared (PIR) motion detector is a high-performance, ultra low-power intrusion sensor with advanced design ideal for residential and commercial applications.

The PYR-2011A's SSFL technology (look down) allows detection at proximity of 50 cm from its mounting location.

This unit works with Rosslare's control panels such as HomeLogix™, which is wireless, and AuraSys™, which is wired.

For the PYR-2011A to work with AuraSys™, the AuraSys™ panel must have the XR-16 wireless expansion.

The PIR senses slight motion within a coverage area by detecting infrared energy with a Pyroelectric sensor.

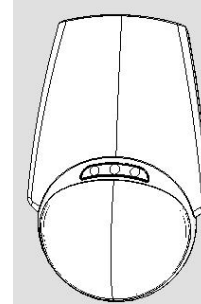
Serving as an anti-intrusion sensor, the PIR can monitor open space within the line of sight.

The "Walk & Radio" test is simple and user-friendly, and is easy to place and set. The PYR-2011A uses fuzzy logic to improve detections and reduce false alarms. It also provides digital temperature compensation and self test capability.

The PYR-2011A is supplied with front and back tampers for high security.

As a wireless device, it includes a supervised mechanism, as well as a battery checker and tamper announcement.

CAUTION: Changes or modifications to this equipment not expressly approved by the party responsible for compliance (Rosslare Ltd.) could void the user's authority to operate the equipment.



2. Technical Specifications

2.1 Optical Characteristics

Lens Type: Spherical

Field of view: 90°

Max. Coverage: 12 x 12 m (39.5 x 39.5 ft)

No vertical adjustment

2.2 Electrical Characteristics

Battery type: CR123 (3 V/1300 mAh)

Current Consumptions: Standby 15 µA, 10 mA transmission

Battery Life (nominal): 3 years (150 tr/day)

Detector Type: Dual PYRO IR element (IR filter 5 µm ÷ 14 µm)

Alarm Signaling: Red LED 2 seconds on (push button setting)

Events Transmission: Alarm, Tamper, Low battery

Sensitivity: 3 levels fuzzy logic (jumper setting)

Speed Detect: 0.2 m/s ÷ 3 m/s $\Delta t = 1.1^\circ\text{C}$
(0.66 ft/s ÷ 9.84 ft/s $\Delta t = 34^\circ\text{F}$)

Temperature Compensation: Digital dual slope (+/- 1°C)

Tamper Switches: Back and front cover tampers

Supervisory Signals: Electronic malfunction, temperature out of range (by flashing LED)

Arming types: *Normal* – 2 minutes sleep, followed by last alarm
Dynamic – 2 minutes sleep, followed by last movement (retrigger)
Test modes – walk test (no sleep) 1 min
Radio test – 10 transmissions

2.3 RF Transmission Characteristics

Frequency: model H = 868.35 MHz; model G = 433.92 MHz

Range: 200 meters (590.55 ft) open field conditions

Supervision transmission: automatic, at 20-minute intervals

Self-check: 3 hours from last alarm (retriggered)

2.4 Environmental Characteristics

Operating Environment: Indoor use

Operating Temperature: -10°C to 60°C (14°F to 140°F)

Operating Humidity: 0 to 95% (non-condensing)

RFI Protection: >20 V/m up to 1000 MHz

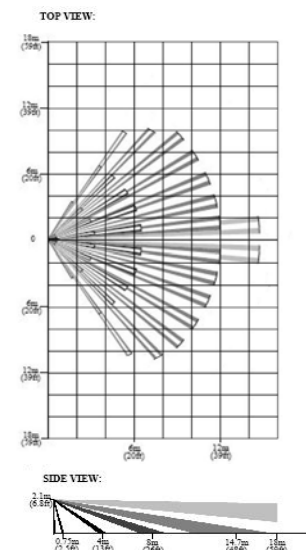
2.5 Physical Characteristics

Dimensions: 127 x 80 x 63 mm, 5 x 3.15 x 2.48 inch (fits US Gang Box)

Weight: 0.27 lbs (123 g) (without battery)

Compliance with standard: CE

EN 50131-2-2 Grade 2, Class II



3. PYR-2011A Features

- **Advanced micro-controller electronics:** 10-bit A-to-D and advanced algorithms for superior movement speed spectrum analysis
- **Shielded dual-element Pyro:** Inside a dust-proof chamber designed to reduce thermal changes and insect protection
- **Three levels of sensitivity:** High, medium, low; by jumper selection
- **Power saving:** Two transmission modes by jumper
- **Back and front cover tamper switches:** Protection against cover or wall removal for increased security

- **Easy & comfortable installation:** Easy installation without PCB adjustment
- **Easy Walk & Radio test:** By single contactless switch
- **Energy detection system:** By using fuzzy logic algorithms, detection is improved and false alarms are reduced
- **Environment temperature compensation:** Maintains constant detection capability
- **Adaptive filter:** Compensates for changes in a detected object's speed
- **Continuous monitoring:** Sends visual alerts in case of malfunction (digital and analog) and temperature out of range

4. Installation

4.1 General

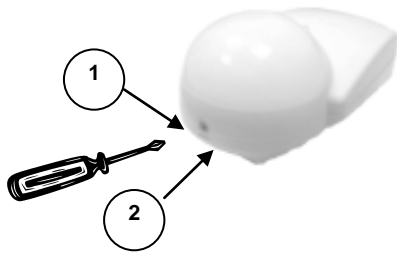
The PYR-2011A is designed for easy installation. Only a few steps are needed to install the PIR device.

To enable the Curtain Adapter for PIR detection on a focused area, such as a corridor or across a window or opening, follow the instruction outlined in Section 5.

When you are sure of the mounting location, follow the steps for mounting the PIR (on a flat surface or in a corner) as described below.

4.2 Opening the PYR-2011A

The PYR-2011A housing can be opened by unscrewing it with a Philips-head screwdriver (1) and pushing the safety latch (2) to "unlock".



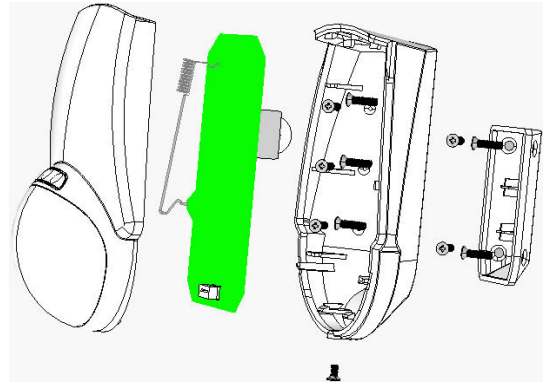
4.3 Mounting the PYR-2011A PIR

Select an area for mounting the PYR-2011A, and ensure the location is flat, either a wall or a 90-degree corner, for perfect mounting of the unit. Ensure the PIR has a "view" of the area under surveillance and is free from obstructions.

The PYR-2011A has a detection range of 14.7 m (48 ft.) when placed at a height of between 1.8 m and 2.3 m.

To mount the PYR-2011A PIR:

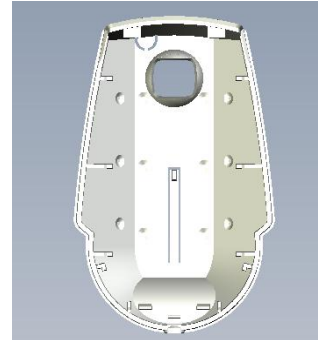
1. When using the corner mount, you must first place the plastic bracket in the corner at the exact chosen location. Pay attention that the narrow edge faces downwards (the bracket has a direction).
2. Attach the bracket firmly to the wall; all 4 screws must be inserted.
3. Insert the body of the PYR into place over the plastic bracket, using the corner mounting holes. The plastic pipe/pole should press the "back tamper" correctly.



4.4 Wall Mounting

The PIR housing has "dimple" points for insertion of screws, for either wall mounting or corner mounting (refer to detailed pictures below). Remove the PCB board prior to mounting.

CAUTION: Be careful not to touch the pyroelectric unit on the board. Touching the unit will gravely affect the unit's ability to work properly.



4.5 Closing the Detector

After mounting the detector, insert a battery (refer to Section 6). Place the PCB back in place and close the detector in reverse order. Wait for the detector to finish its self-test (refer to the Signaling Table in Section 9).

NOTE: When using the swivel mount, refer to the BR-11 installation manual.

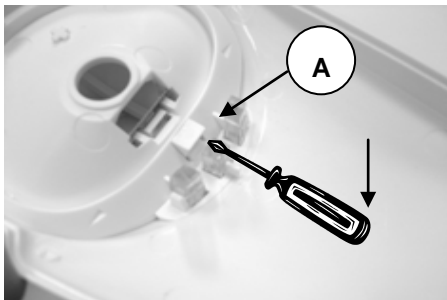
5. Adding the Curtain Adapter

Use the curtain adapter for detecting movement in narrow places (corridors) or across surfaces (window).

You will need to remove the lens only to add or remove the curtain adapter.

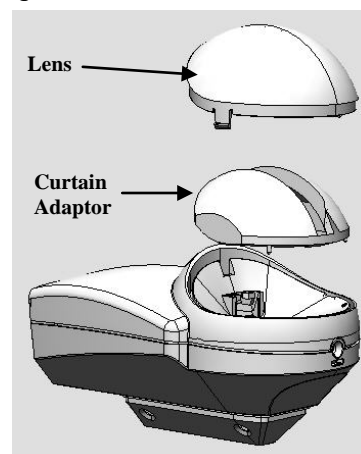
To add the curtain adapter:

1. Turn the top part of the PYR-2011A over and locate the lens' "holder pin" (A).
2. Remove the pin by positioning a screwdriver under the "holder pin" and gently lifting the pin up out of its place.



3. Gently push the two latches on the side of the lens inwards, turn the housing over, and pop off the lens.

4. Place the curtain adapter onto the lens area on the front of the housing. Be sure to place the guide pins into the two holes at the lower part of the lens area.
5. Replace the lens.
6. Turn the whole assembly over and replace the "holding pin" that holds the spherical lens in place. Be sure to place the "holding pin" between the lens tab and the housing, with the flat side toward the lens tab.



6. Changing the Battery

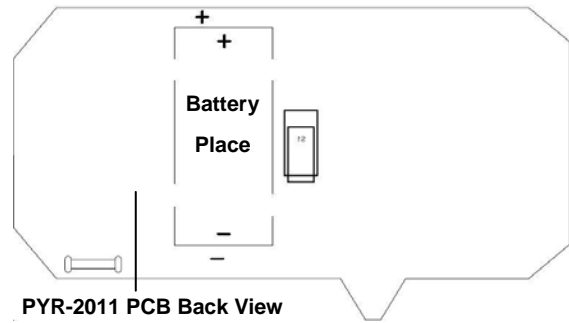
When the battery is weak, the PYR-2011A sends a signal to the panel, including LED signals (refer to the Signaling Table in Section 9) indicating a weak battery. Although the detector can continue working for an additional amount of time, it is prudent to replace the battery as soon as possible.

To change the internal battery:

1. Follow the directions in the Section 4.2 (Opening the PYR-2011A).
2. Remove the PCB unit from the housing by pressing down on the retaining latches and tilting the PCB out from the bottom.
3. Remove the battery and replace with a 3 VDC, 1300 mAh model CR123A only. Pay attention to the polarity of the battery when inserting into the holder.

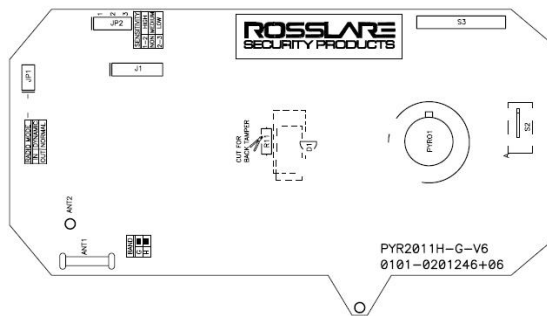
CAUTION: There is a danger of explosion if the battery is replaced incorrectly. Replace only with a 3V Lithium GPCR123A or equivalent. Dispose of used batteries according to the manufacturer's instructions.

4. Replace the PCB cover of the PYR-2011A and the locking screw.



7. Jumper and Tamper Setting

The PYR-2011A has two jumpers, JP1 and JP2, and reed switch S3 (test mode), which is operated by placing a magnet over it.



7.1 Sensitive Level Jumper (JP2)

To prevent false alarms in harsh environments, three sensitivity modes were designated:

- Low – for harsh environments, jumper on pins 2 and 3
- Medium – for normal usage, jumper off
- High – for high sensitivity when there is little chance of false alarms, jumper on pins 1 and 2

7.2 APS – Auto Power Save Mode (JP1)

To save power, the PYR-2011A goes into Sleep mode after sending an alarm. The time the device is latent is set by the radio mode jumper, JP1.

- **Normal** (always 2 minutes between alarms) – no jumper.
- **Dynamic** (2 minutes retrigged between alarms) – jumper on.

8. Testing the Detector

The PYR-2011A PIR has built-in walk test and radio test functions where the LED of the PIR is enabled.

The walk test is used to check the detection of the PIR and the coverage pattern. (After a self-check at power up, the walk test is automatically enabled for 2 minutes.)

To perform a walk test:

1. Ensure all of the settings in the PIR are adjusted as necessary for the location according to the installation instructions above.
2. Place a magnet over the right side of the lens for 1 second only.

When the dynamic mode is set, an alarm event is sent only if there were 2 minutes of silence prior to the current alarm. This setting is useful for places with a high level of traffic, such as factories and shops.

7.3 Back Tamper (R11)

NOTE: When using the corner mount or bracket, the back tamper is not applicable.

The PYR-2011A has both front and back tamper detection. The back tamper and front cover are set in a series. One tamper can be stimulated only when the other is closed.

Front tamper detection is on by default and it is activated when the cover is opened. The back tamper detection is activated when the detector is pulled off the wall and is disabled by default. To enable the back tamper detection, cut the back tamper wire - R11 - which is marked on the PCB as a scissor print.

7.4 Test Mode Switch (S3)

The detector utilizes a contactless switch, which enables easy testing without opening the case:

Walk test – Place a magnet over the right side of the lens for 1 second only; PIR functionality is evaluated for a 1-minute period (refer to Section 8).

Radio test – Place a magnet over the right side of the lens for more than 3 seconds; the red indicator illuminates (refer to Section 8).

In all modes, the LED remains active at all trouble announcements. Refer also to the panel manual for RF testing details.

3. With the LED enabled, the LED flashes every time the detector detects motion. There is a 2-second wait period before the next detection.
4. It is recommended that the Installer test the detection by going over the protected area and seeing that the detection pattern is good.
5. After 1 minute, the LED goes off. If a new walk test is needed, repeat Steps 3 to 5.

The radio test is used to ensure a clear RF signal passes between the detector and the control panel.

To perform a radio test:

1. Place a magnet over the right side of the lens for more than 3 seconds; the red indicator illuminates.
2. Ten alarm events are transmitted every 4 seconds.

9. Signaling Table

The LED on the front of the PYR-2011A is used to send several signals to the user. The following table describes the signals for different activities:

Activity	LED Signal
Warmup	The LED flashes on for 2 seconds and off for 2 seconds for a period of 1 minute. If the warmup is successful, the LED stops flashing and the system is ready for detection.
Detect Condition	The LED flashes on for 2 seconds and then turns off.
PIR Problem	The LED flashes on for 1 second and then off for 1 second. A PIR check is conducted every 3 hours.
Temperature Problem	The LED flashes on in short bursts.
Weak Battery	LED OFF and ON alternately during Alarm, Tamper event

10. Limited Warranty

ROSSLARE ENTERPRISES LIMITED (ROSSLARE) ONE-YEAR LIMITED WARRANTY is applicable worldwide. This warranty supersedes any other warranty. ROSSLARE'S ONE-YEAR LIMITED WARRANTY is subject to the following conditions:

Warranty

Warranty of ROSSLARE'S products extends to the original purchaser (Customer) of the ROSSLARE product and is not transferable.

Products Covered By This Warranty and Duration

ROSSLARE ENTERPRISES LTD. AND/OR SUBSIDIARIES (ROSSLARE) warrants the PYR-2011A Advanced wireless PIR, to be free from defects in materials and assembly in the course of normal use and service. The warranty period commences with the date of shipment to the original purchaser and extends for a period of 1 year (12 months).

Warranty Remedy Coverage

In the event of a breach of warranty, ROSSLARE will credit Customer with the price of the Product paid by Customer, provided that the warranty claim is delivered to ROSSLARE by the Customer during the warranty period in accordance with the terms of this warranty. Unless otherwise requested by ROSSLARE representative, return of the failed product(s) is not immediately required.

If ROSSLARE has not contacted the Customer within a sixty (60) day holding period following the delivery of the warranty claim, Customer will not be required to return the failed product(s). All returned Product(s), as may be requested at ROSSLARE sole discretion, shall become the property of ROSSLARE.

To exercise the warranty, the user must contact ROSSLARE to obtain an RMA number after which, the product must be returned to the Manufacturer freight prepaid and insured. In the event ROSSLARE chooses to perform a product evaluation within the sixty (60) day holding period and no defect is found, a minimum US\$ 50.00 or equivalent charge will be applied to each Product for labor required in the evaluation.

ROSSLARE will repair or replace, at its discretion, any product that under normal conditions of use and service proves to be defective in material or workmanship. No charge will be applied for labor or parts with respect to defects covered by this warranty, provided that the work is done by ROSSLARE or a ROSSLARE authorized service center.

Exclusions and Limitations

ROSSLARE shall not be responsible or liable for any damage or loss resulting from the operation or performance of any Product or any systems in which a Product is incorporated. This warranty shall not extend to any ancillary equipment not furnished by ROSSLARE, which is attached to or used in conjunction with a Product, nor to any Product that is used with any ancillary equipment, which is not furnished by ROSSLARE.

This warranty does not cover expenses incurred in the transportation, freight cost to the repair center, removal or reinstallation of the product, whether or not proven defective. Specifically excluded from this warranty are any failures resulting from Customer's improper testing, operation, installation, or damage resulting from use of the Product in other than its normal and customary manner, or any maintenance, modification, alteration, or adjustment or any type of abuse, neglect, accident, misuse, improper operation, normal wear, defects or damage due to lightning or other electrical discharge. This warranty does not cover repair or replacement where normal use has exhausted the life of a part or instrument, or any modification or abuse of, or tampering with, the Product if Product disassembled or repaired in such a manner as to adversely affect performance or prevent adequate inspection and testing to verify any warranty claim.

ROSSLARE does not warrant the installation, maintenance, or service of the Product. Service life of the product is dependent upon the care it receives and the conditions under which it has to operate.

In no event shall ROSSLARE be liable for incidental or consequential damages.

Limited Warranty Terms

THIS WARRANTY SETS FORTH THE FULL EXTENT OF ROSSLARE ENTERPRISES LTD. AND ITS SUBSIDIARY'S WARRANTY.

THE TERMS OF THIS WARRANTY MAY NOT BE VARIED BY ANY PERSON, WHETHER OR NOT PURPORTING TO REPRESENT OR ACT ON BEHALF OF ROSSLARE.

THIS LIMITED WARRANTY IS PROVIDED IN LIEU OF ALL OTHER WARRANTIES. ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE SPECIFICALLY EXCLUDED.

IN NO EVENT SHALL ROSSLARE BE LIABLE FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT, OR FOR ANY OTHER INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF USE, LOSS OF TIME, COMMERCIAL LOSS, INCONVENIENCE, AND LOSS OF PROFITS, ARISING OUT OF THE INSTALLATION, USE, OR INABILITY TO USE SUCH PRODUCT, TO THE FULLEST EXTENT THAT ANY SUCH LOSS OR DAMAGE MAY BE DISCLAIMED BY LAW.

THIS WARRANTY SHALL BECOME NULL AND VOID IN THE EVENT OF A VIOLATION OF THE PROVISIONS OF THIS LIMITED WARRANTY.

11. Declaration of Conformity

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television

reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

12. Contact Information

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